UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/154,732	06/07/2011	Uwe Bonin	P11,0120 (38698-0021)	1565

26574 7590 02/02/2017		

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EXAMINER
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ART UNIT	PAPER NUMBER
3664	

NOTIFICATION DATE	DELIVERY MODE
02/02/2017	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte UWE BONIN

Appeal 2015-002815
Application 13/154,732[1]
Technology Center 3600

Before WILLIAM A. CAPP, AMANDA F. WIEKER, and
FREDERICK C. LANEY, *Administrative Patent Judges.*

LANEY, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Uwe Bonin (Appellant) appeals under 35 U.S.C. § 134(a) from the
Examiner's final decision rejecting claims 1 and 3–15. We have jurisdiction
over this appeal under 35 U.S.C. § 6(b).

We AFFIRM.

INVENTION

Appellant's invention relates to "a method and a controller to control a robot, wherein the controller receives safety information about a network data connection." Spec. 1.

Claims 1 and 13–15 are independent claims. Claim 1, reproduced below with emphasis added, is illustrative of the claimed invention:

1. A computerized controller for a robot, comprising:

a computerized processor configured to generate control signals at an output of the computerized processor in a form adapted to operate a robot in a first operating mode to perform a plurality of operational functions;

a network;

a receiver configured to receive a data set comprising a plurality of data subsets respectively representing different safety information via said network data connection and that provides said plurality of subsets respectively representing said different safety information to said computerized processor;

said processor comprising a safety module configured to execute safety functions dependent on said different safety information respectively represented by the data subsets received by the receiver, in order to prevent said processor from generating a control signal that would cause said robot to perform at least one of said operational functions; and

said processor comprising a simulation module configured to receive an input indicating operating of said robot in a second operating mode that takes said robot out of said first operating mode, and *thereupon to simulate the safety information represented by at least one of said data subsets, as a simulated data subset, and to supply said simulated data subset to said safety module and thereby causing said safety module to execute the respective safety function that is dependent on said safety information*

*represented by the simulated data subset, as a replacement
of said safety information receivable by said receiver via
said network, in order to permit said processor to generate
said control signal that would cause said robot to perform
said at least one of said operational functions.*

Appeal Br. 16–17 (Claims App., filed Sept. 23, 2014).

REJECTIONS

I.   The Examiner rejected claims 1, 3, 4, 7–10, and 12–15 under
      35 U.S.C. § 103(a) as being unpatentable over Meyer-Gräfe
      (US 6,957,115 B1, iss. Oct. 18, 2005) and Tanaka (US
      2006/0202556 A1, pub. Sept. 14, 2006).

II.   The Examiner rejected claims 5 and 6 under 35 U.S.C. § 103(a)
      as being unpatentable over Meyer-Gräfe, Tanaka, and Gilliland
      (US 2001/0004718 A1, pub. June 21, 2001).

III. The Examiner rejected claim 11 under 35 U.S.C. § 103(a) as
      being unpatentable over Meyer-Gräfe, Tanaka, and Sjoberg (US
      2009/0128079 A1, pub. May 21, 2009).

ANALYSIS

Addressing Rejection I, Appellant argues the Examiner combines
Meyer-Gräfe and Tanaka improperly to demonstrate the unpatentability of a
computerized controller for a robot with each of the elements independent
claim 1 recites. Appeal Br. 6–14. More specifically, Appellant raises a
single dispute and contends, "a person of ordinary skill in the field of
designing robot control systems would [not] find it obvious to combine
teachings from Tanaka et al. and Meyer-Grafe et al., because those
references respectively disclose different alternatives for controlling an

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automatic device." *Id.* at 7. Appellant has not presented arguments for the patentability of claims 3, 4, 7–10, and 12–15 apart from claim 1. *See id.* at 6–14. Therefore, in accordance with 37 C.F.R. § 41.37(c)(1)(iv), we select claim 1 as the representative claim, with claims 3, 7–10, and 12–15 standing or falling with claim 1.

Except for the limitation for data manipulation permitting a robot to perform an operational function, the Examiner finds Meyer-Gräfe teaches every other limitation of claim 1. Final Act. 4–5. Turning to Tanaka, the Examiner finds it teaches,

> a system and method for controlling a robot operation including the exceedingly well-known function of a safety override (enable switch) wherein a function wherein the robot is taken out of a first operation mode and put into a second operation mode wherein the second operation mode permits a processor to generate a control signal that would cause said robot to perform a at least one operational function (enable switch allowing teaching mode while safety gate is open).

Id. at 5. Thus, the Examiner finds the combination of Meyer-Gräfe and Tanaka discloses each of the limitations of claim 1, which Appellant does not dispute.

Instead, Appellant's challenge is limited to whether the Examiner properly made a prima facie case for combining the teachings of Meyer-Gräfe and Tanaka to render claim 1 obvious.[2] Appeal Br. 6–14; Reply Br. 2–5. The Examiner concludes,

> [i]t would have been obvious to one of ordinary skill in the art at the time of the invention to modify the robot control system as taught by Meyer-Grafe with the safety override as taught by

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[2] Appellant asserts the same arguments apply regardless of which reference the Examiner relies on as the primary or secondary reference. Reply Br. 2–3.

> Tanaka in order to allow for additional modes of operation of the robot when the safety device is in operation, such as a teach mode, a low speed mode, or to allow an operator to maintain or provide other functions within close proximity of the robot, for example within a safety fence.

Final Act. 5. Appellant argues that, because Tanaka discloses a hardware-based control system, and Meyer-Gräfe discloses a software/network-based control system, a person of ordinary skill in the field of designing robot control systems would not find it obvious to combine the teachings of Tanaka and Meyer-Grafe. Appeal Br. 7–8.

Appellant submits modifying Meyer-Gräfe in accordance with the hardware-based teachings of Tanaka would be considered by a person of ordinary skill in the art as a "backwards" step from the procedure disclosed in Meyer-Gräfe, since it would be re-introducing the very type of technology that Meyer-Gräfe teaches should be avoided. Reply Br. 4. As support, Appellant refers to Meyer-Gräfe's teaching, at column 2, lines 4–7, that, "[o]ne object of the invention is thus to provide a safety related automation bus system which requires as little hardware redundancy as possible, and which can be flexibly matched to the respective requirements," and argues that "[t]he invention is therefore based on the reliability of present-day automation systems, and integrates *pure* emergency electronics or software, which become actively involved in the operation of the system only when the individual standard technology is operating incorrectly." *Id.* at 3–4.

The Examiner notes properly that the rejection is not based upon a bodily incorporation of Tanaka's structure into Meyer-Gräfe's device. Ans. 5–6 (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) ("The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. . . . Rather,

the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.")); *see also In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973) ("Combining the *teachings* of references does not involve an ability to combine their specific structures."). Further, Appellant has not asserted that the proposed modification would have been beyond the capabilities of a person of ordinary skill in the art. Absent such an assertion, we "take account of the inferences and creative steps that a person of ordinary skill in the art would employ," and find a person of ordinary skill in the art would overcome those difficulties within their level of skill. *KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 418 (2007); see also id.* at 421 ("A person of ordinary skill is also a person of ordinary creativity, not an automaton.").

Appellant's argument also fails to address the rationale provided by the Examiner, namely, "allow[ing] for additional modes of operation of the robot when the safety device is in operation, such as a teach mode, a low speed mode, or to allow an operator to maintain or provide other functions within close proximity of the robot, for example within a safety fence." Finally, to the extent Appellant's argument relies upon a "teaches away" rationale to rebut the Examiner's determination, the evidence cited does not criticize, discredit, or otherwise discourage the combination that the Examiner relies upon. *See In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). Appellant offers no persuasive evidence that anything technically is required to implement the Tanaka teachings into the Meyer-Gräfe application that would necessarily undermine the objectives Meyer-Gräfe seeks to achieve. As a result, Appellant's argument is unpersuasive for

showing an error with the Examiner's determination claim 1 would have been obvious in view of Meyer-Gräfe and Tanaka.

For Rejection II, Appellant does not present separate patentability arguments of dependent claims 5 and 6; in fact, Appellant does not address the factual findings and conclusions the Examiner relies upon in Rejection II at all. *See id.* at 6–14. Regarding Rejection III, which only addresses dependent claim 11, Appellant limits its argument to the one articulated for claim 1 and asserts Sjoberg does not cure the deficiencies of the rejection of base claim 1. *Id.* at 14. As discussed above, however, Appellant has not persuasively shown a deficiency to exist with the rejection of base claim 1. Therefore, for the foregoing reasons, we sustain the Examiner's rejection of claims 1 and 3–15.

DECISION

The Examiner's rejections of claims 1 and 3–15 are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED